Urban Design Guidelines & Standards

PLANNING & DEVELOPMENT
CITY OF LAS VEGAS
Development Services Center

Landscape, Wall & Buffer Standards

Table of Contents

Sections **Adopted March 17, 1997**

Purpose and Intent ..... March 97

General Design Criteria
- Landscaping ..... March 97
- Turf ..... March 97
- Irrigation ..... March 97
- Soils ..... March 97
- Stem Walls / Slopes / Berms ..... March 97

Parking Area ..... March 97

Single Family Guidelines ..... March 97

Multi-Family Guidelines ..... March 97

Commercial / Industrial Guidelines ..... March 97

Procedures and Enforcements ..... March 97

Definitions ..... March 97

Landscape, Wall & Buffer Standards

Purpose and Intent

These standards supersede and replace the existing "Landscape and Wall Buffer System Guidelines" adopted by the City Council in 1988 and amended in 1990. These standards complement Title 19, and more specifically Chapter 19A.12 "Landscape and Buffer Standards" of the City of Las Vegas Zoning Ordinance adopted by the City Council in 1997.

These standards are intended to be applied throughout the City, unless more restrictive guidelines have been imposed upon a development by a Board, the City Council or through the adoption of a Neighborhood Plan, Planned Development or other specific designated areas.

These standards are provided for the general health and welfare of citizens through the conservation of water, reduction of air pollution, and the public safety. The intent is to achieve a high quality of appearance, to assure design compatibility, to direct character and form, to conserve water, and to enhance the overall value of the community. These standards are also intended to assist the designer in achieving a quality design which will enhance development of the City of Las Vegas.

Landscaping

All required landscaping shall be installed in proportion to the construction phasing when adjacent to or across the street from all types of residential uses or as soon as permitted by standard seasonal planting practices.

Dead vegetation shall be promptly replaced, based on standard seasonal planting practices with healthy, living plants in all required landscaping areas. All planters shall be landscaped with a combination of plant material tolerant of the Las Vegas climate[1] and protective ground surface covering. Bare soil is not permitted.

All required landscaping shall be properly maintained, based on standard landscaping practices, by the property owner(s) and/or supported by a perpetual Homeowner 's Association budget, or a reasonnable alternative approved by the City.

The staff may require additional landscaping, as a condition of case action, when the additional landscaping is necessary to maintain an established pattern created by other existing landscaping in the surrounding area, or is necessary to promote aesthetically pleasing, orderly, and harmonious development of the City.

[1] See "Desert Demonstration Gardens, Self-Guided Tour & Southern Nevada Plant List" by the Las Vegas Valley Water District (1996), for recommended plant material.

Recommended Tree Criteria and Uses:

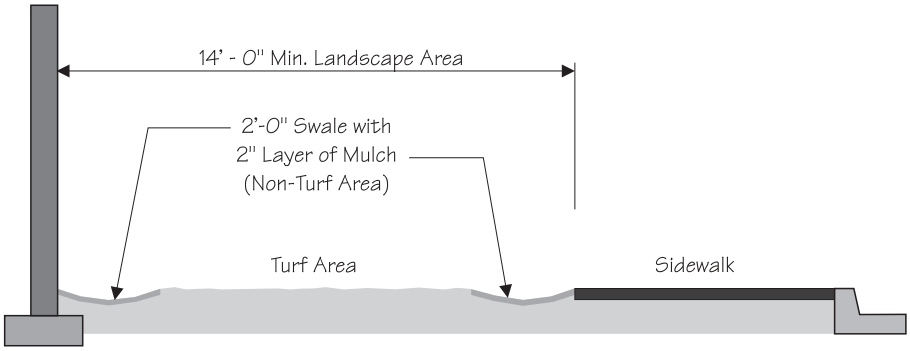
Location	24" Box Tree	15 Gallon Tree
Primary Thoroughfare (Min. R.O.W. 100') Character: Tall majestic trees to define the edges of a major City thoroughfare.	Deciduous or Evergreen Single Trunk Type Size at Maturity: 40' to 60' Tall 20' to 30' Canopy	Deciduous or Evergreen Single Trunk Type Size at Maturity: 25' to 35' Tall 20' to 30' Canopy
Secondary Thoroughfare (Min. R.O.W. 80') Character: Tall trees with colors to define the edges of a neighborhood.	Deciduous or Evergreen Single Trunk Type Size at Maturity: 35' to 50' Tall 20' to 30' Canopy	Deciduous or Evergreen Single Trunk Type Size at Maturity: 25' to 35' Tall 20' to 30' Canopy
Collector Street (Min. R.O.W. 60') Character: Large canopy trees to reinforce the residential character of the street.	Deciduous or Evergreen Single Trunk Type Size at Maturity: 25' to 40' Tall 25' to 40' Canopy	Deciduous or Evergreen Single or Multi Trunk Type Size at Maturity: 25' to 35' Tall 25' to 35' Canopy
Parking Character: A mix of shape and color trees to provide shade, and break the uniformity of the landscape.	65% to 75% Deciduous 25% to 35% Evergreen Single or Multi Trunk Type Size at Maturity: 30' to 40' Tall 20' to 30' Canopy	N/A
Rear and Side Yard Buffer Character: Tall green trees to form a screen and define a property line.	Evergreen Single or Multi Trunk Type Size at maturity: 25' to 40' Tall 15' to 25' Canopy	N/A

Turf

Turf areas that use overhead spray for irrigation shall be a minimum of ten (10) feet in width and shall have a non-turfed swale or recessed area of a minimum of two (2) feet in width from back of curb or walls. The swale area may contain shrubs or ground cover, with bubbler heads or drip emitters.

Turf area less than ten (10) feet in width may be permitted with subsurface irrigation systems with adequate (minimum twenty (20) percent and at least six (6) inches deep) soil amendments. Those areas using subsurface irrigation may be allowed next to curbs when a swale of two (2) feet minimum in width is provided, and the irrigation system is designed to eliminate runoff of water into the public right-of-way.

All non-turf areas shall have a minimum two(2) inch layer of rock mulch (except around the crown of plants), to retain water, inhibit weed growth, and moderate soil temperature. Non-porous materials shall not be placed under the mulch.



Turf areas are discouraged in public street medians. Developers may provide and plant street medians on public and private streets as long as they are supported by a perpetual Homeowner's Association budget and all necessary approvals as required by the City or any other governmental entity are submitted.

Irrigation

All irrigation systems for commercial and multi-family developments shall be drip emitters or bubblers, except for turf areas where spray heads or subsurface systems are permitted, and shall be designed so as to eliminate any runoff of water into the public right-of-way, as required by City Ordinance 13.04.030 and 14.08.040 (A).

In order to minimize damage to buildings and solid walls from soil settling, expansion/contraction (cracked foundation), all overhead spray irrigation system shall be at a minimum of twenty-four (24) inches back from any building and solid walls with no overspray contacting any building or solid walls.

An automatic irrigation system is required for all planting areas, and shall include:

1. an electric automatic controller with multiple program,
2. multiple repeat cycle capabilities,
3. a flexible calendar program.

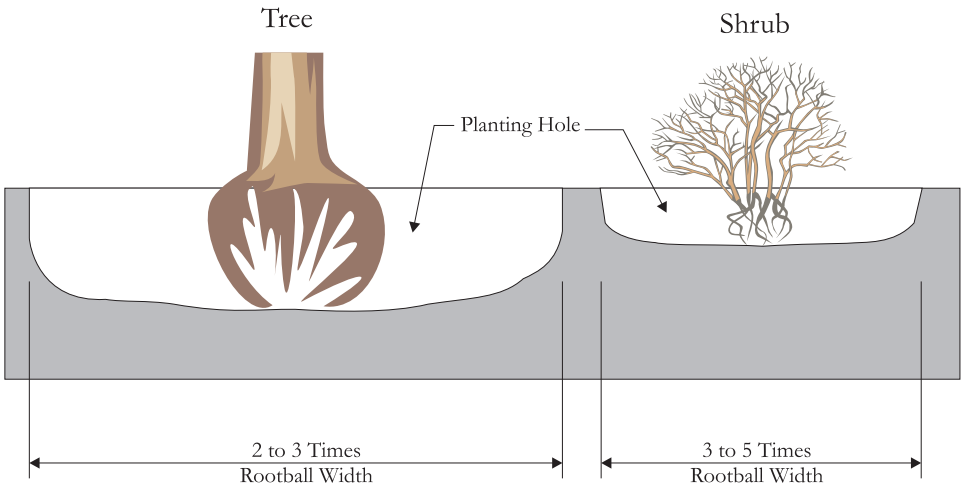
All irrigation water shall be retained on-site. When required, swales shall channel water to larger holding areas, catch basin, other planting areas, gravel sumps and/or dry-wells. Areas that accumulate system water shall be provided with underground drainage systems to carry water to holding or discharge areas.

Soils

Imported soil, used as topsoil beneath turf lawns (minimum of six (6) inches for lawns) and in backfill for trees and shrubs, should not be excessively alkaline (pH not to exceed 8.5) and should be free of clay, debris, and toxic substances.

Backfill mix for trees, shrubs, and ground cover beds should include at least one (1) part organic soil amendment (forest mulch, no animal product) for every three (3) parts soil.

Planting holes for trees should be at least two to three times the width of the rootball and should be no deeper than the container. Shrubs should have a hole three to five times the width of the rootball and should not be deeper than the rootball itself.

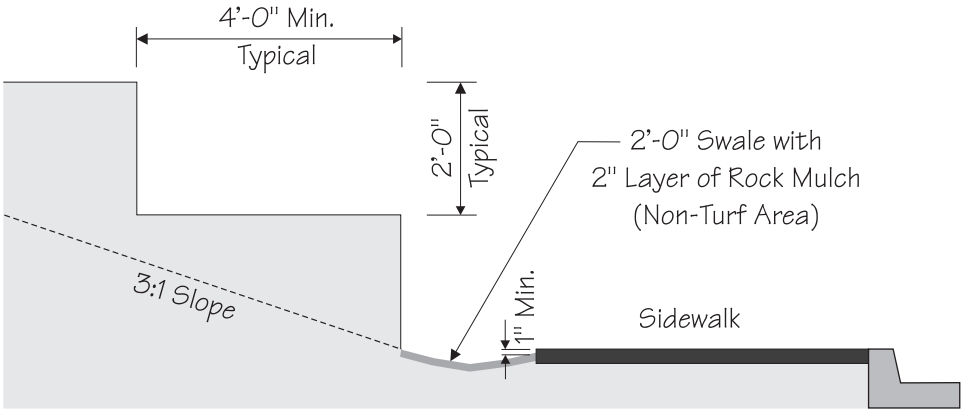


Stem Walls

In order to minimize wash out losses, wherever the depth of flow in the street is above the top-of-curb, all drought-tolerant landscaping adjacent to public street rights-of-ways shall be reviewed, based on public works criteria to determine if rip-rap or stem walls are necessary.
The anchored stem wall or rip-rap (large boulders) height shall be equal to the design flow depth plus six (6) inches. The height of the stem wall (usually a minimum of six (6) inches or a maximum of two (2) feet located on the property line adjacent to the public street rights-of-way) shall be determined by the "Technical Drainage Study". If rip-rap is installed, a flood wall is required, as determined by Public Works, to prevent "piping" under the wall.
Any stem walls adjacent to back of street curbs shall not exceed six (6) inches.

Slopes / Berms

Slopes exceeding the 3:1 ratio shall be terraced. The terraces shall average two (2) feet in height and a minimum of four (4) feet in width. The bottom of the slopes shall not be within two (2) feet of adjacent curbs, sidewalks or hardscape areas.



All finished elevations for landscaping shall be installed at either one (1) inch for rock mulch or two (2) inches for turf below sidewalks, roadways or hardscaped areas, and then shall slope away from the sidewalk, roadways or paved areas, to create a two (2) feet wide minimum swale.

Turf areas that are less than ten (10) feet in width shall not be bermed. Bermed areas less than ten (10) feet in width are permitted if they are xeriscaped and drip irrigation system is used to prevent runoff.

All parking areas, excluding parking structure, shall be landscaped.

Minimum Number of Trees Required:

Parking areas shall provide a minimum of one (1) 24 inch box deciduous or evergreen shade tree for every six (6) uncovered parking spaces, or fraction thereof, and be located in planters as described below. This requirement is in addition to all other required landscaping trees.

Landscape islands are required at the end of each and all parking rows and shall provide at least one (1) 24 inch box shade tree per island pairs. Only half of the trees provided at such islands can be counted toward the minimum tree requirement per parking space.

Example:

Total uncovered parking spaces = X
Total number of islands at the end of rows = Y
Total minimum number of trees required = (X/6)+(Y/2)

Planter Characteristics

Landscape planters shall have a minimum width of five (5) feet, and

1. Where parallel to the parking space, the length of the planter shall be equal to the length of the adjacent parking space. In this case, each planter shall provide at least one (1) 24 inch box shade tree.

2. Where separating two rows of parking, the length of the planter shall be equal to the length of the parking row. This type of planter shall provide a minimum of one (1) 24 inch box shade tree no more than every thirty (30) feet on center.

Groundcover:

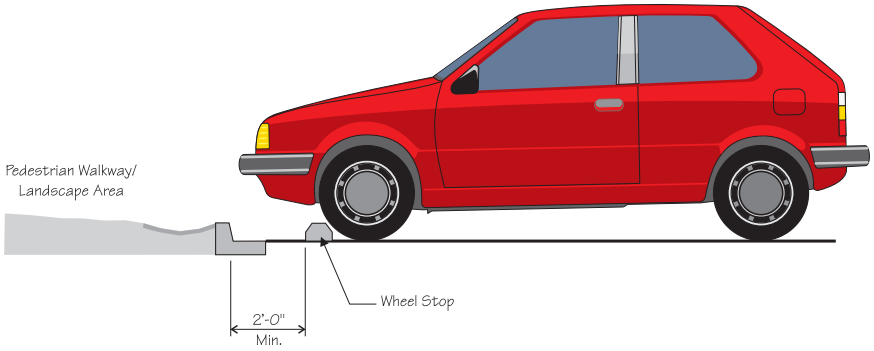
The planter islands shall include a two (2) inch layer of ground cover or rock mulch, and a minimum of four (4) evergreen shrubs of five (5) gallon minimum each per each 24 inch box tree provided. Turf may be an option when the planter has a fourteen (14) feet minimum width, this option does not require any evergreen shrubs.

Irrigation:

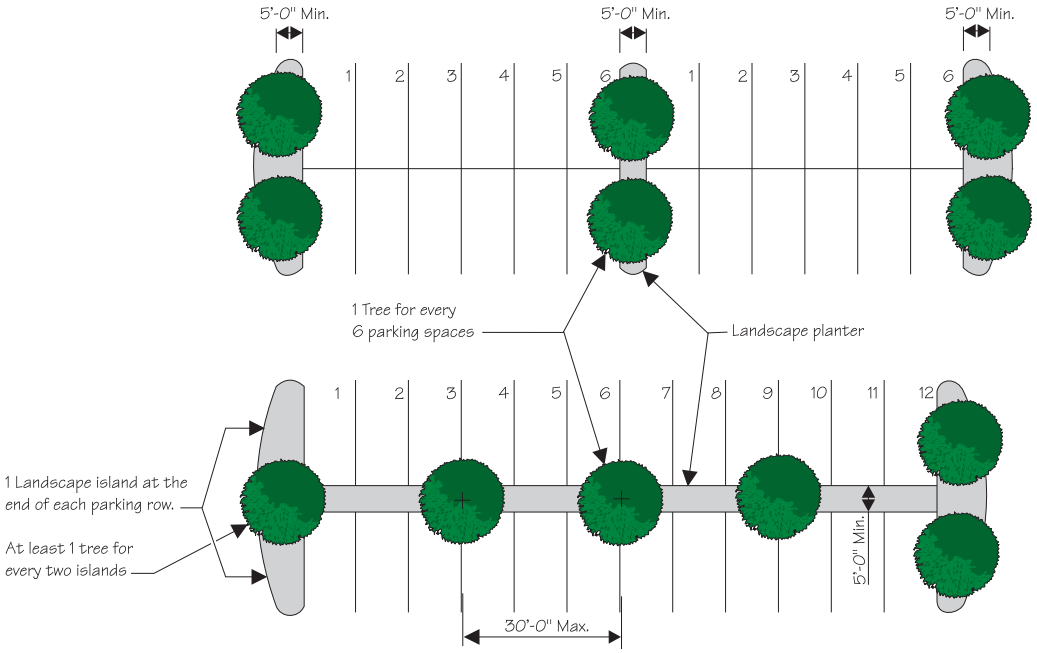
The parking lot planters shall be irrigated with drip irrigation only.

Wheel Stops:

Wheel stops shall be used at every parking space that fronts a pedestrian walkway and/or a landscape area. They shall be installed at a minimum of two (2) feet from the face of the curb to effectively protect walkways, lanscaping and/or signage.



Tree Requirement Sample Calculation:



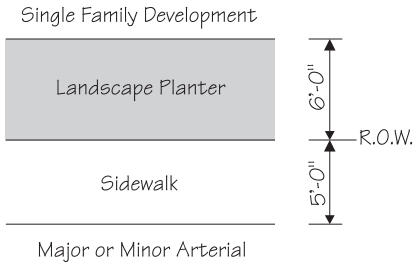
Minimum Tree Requirement for this example:
Total Uncovered Parking Spaces: 48 Spaces
Total Number of Islands at the End of Rows: 8 Islands
Total Minimum Number of Trees Required: (48/6)+(8/2) = 12 Trees

Urban Design Guidelines & Standards

All single family development adjacent to all primary and/or secondary thoroughfare shall conform to the following guidelines in order to enhance City aesthetics and reduce the tunnel effect of plain solid concrete block walls along both sides of roadways.

Planter characteristics:

Provide a minimum of a six (6) feet wide landscape planter in addition to the width of any detached or attached sidewalk.



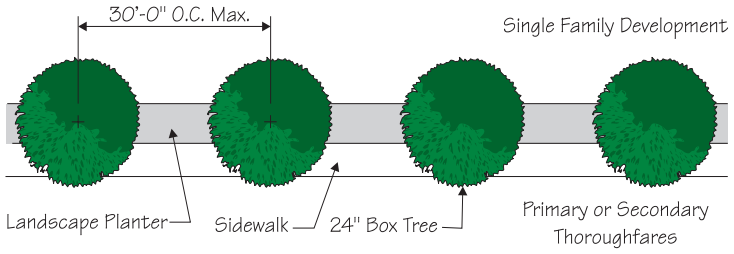
The planter shall be open (no high walls or fencing are allowed within the planter other than stem walls or rip-rap when required) and shall be landscaped with drought-tolerant desert plant material.

Minimum number of trees required:

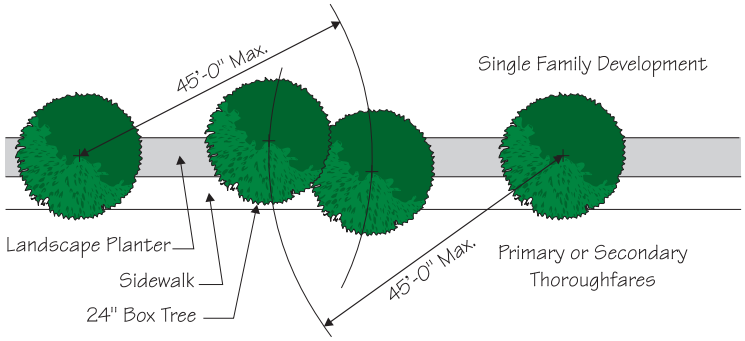
Each planter shall contain a minimum of one (1) 24 inch box deciduous or evergreen tree for every thirty (30) linear feet of planter plus one (1) additional 24 inch box tree.

Tree spacing alternatives:

Alternative 1:
Spacing of trees shall not exceed thirty (30) feet on center.



Alternative 2:
Clustering of trees is allowed if: the total number of trees exceeds the minimum number of trees required by at least one (1) tree; the spacing between any two (2) trees does not exceed forty-five (45) feet; and at least three (3) trees are located within a forty-five (45) feet radius.



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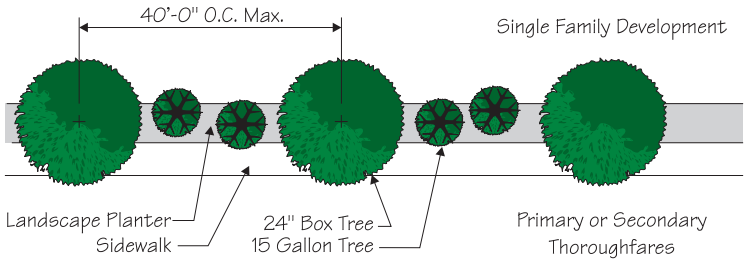
Alternative 3:

The minimum number of trees required is one (1) 24 inch box deciduous or evergreen tree for every forty (40) linear feet of planter plus one (1) extra 24 inch box tree. In addition, two (2) 15 gallon deciduous or evergreen trees shall be required for every forty (40) linear feet of planter, and will be located between the 24 inch box trees.

The spacing of the 24 inch box trees shall not exceed forty (40) feet on center. The 15 gallon trees can be either regularly spaced or grouped in between the 24 inch trees.

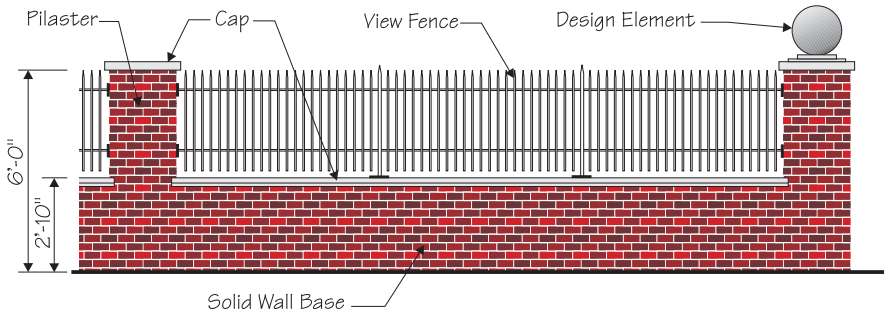


Ground cover:

Ground cover is required and shall include a minimum of four (4) shrubs of five (5) gallon minimum each per each 24 inch box and 15 gallon tree provided.

Wall and Fence:

Walls and fences at the back of the landscape planter shall be made of decorative blocks, split face, flute, brick, slump stone or wrought iron and shall have a minimum of twenty (20) percent contrasting material. The use of stucco is discouraged. The use of cap is strongly encouraged with other design elements to modulate the top line of the wall. A combination of a two feet ten inches (2'-10") high solid wall base with a wrought iron fence in between solid pilasters with cap is the recommended alternative.



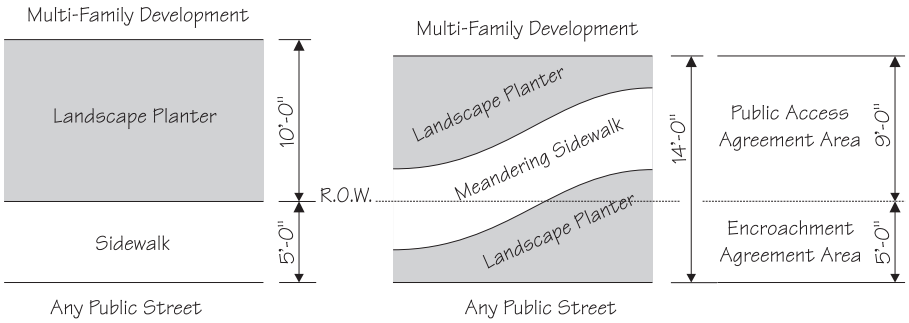
Landscape, Wall & Buffer Standards

Multi-Family Guidelines

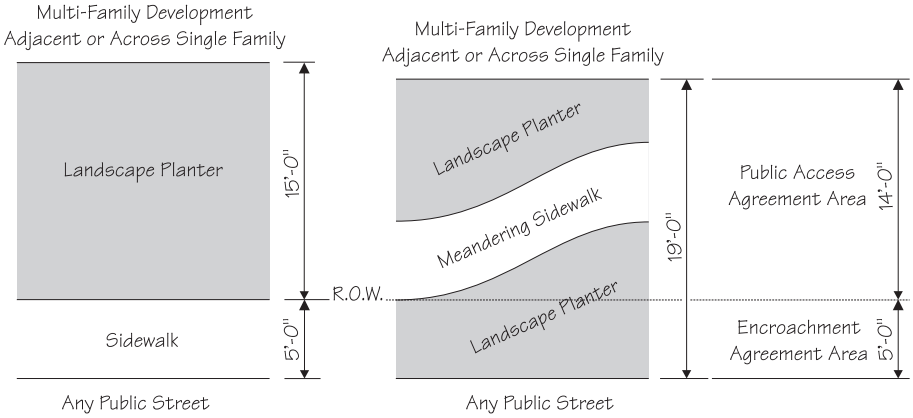
All multi-family development, adjacent to any public street right-of-way, shall conform to the following guidelines in order to enhance the City aesthetics and reduce the tunnel effect of plain, solid, concrete block walls along both sides of roadways.

Planter characteristics:

Provide a minimum of a ten (10) feet wide landscape planter in addition to the width of any detached or attached sidewalk; or, provide a minimum of a fourteen (14) feet wide planter including a meandering sidewalk within the planter. In such case, landscaping shall be installed along both sides of the meandering sidewalk. A public access agreement and an encroachment agreement will be required to install the meandering sidewalk on both sides of the right-of-way.



Where the project is adjacent to or across from an existing single family residential use/zoning district, a minimum of a fifteen (15) feet wide landscape planter shall be provided in addition to the width of any detached or attached sidewalk. This planter may be nineteen (19) feet wide when a meandering sidewalk is provided within the planter area. In such cases, landscaping shall be installed along both sides of the meandering sidewalk. A public access agreement and an encroachment agreement will be required to install the meandering sidewalk on both sides of the right-of-way.



The planter shall be open (no walls or fencing are allowed within the planter other than stem walls or rip-rap when required) and shall be landscaped with drought-tolerant, desert plant material.

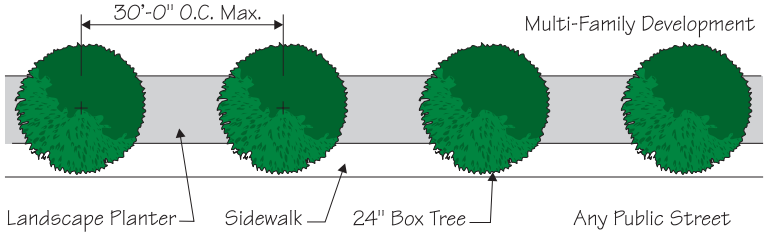
Minimum number of trees required:

Each planter shall contain a minimum of one (1) 24 inch box deciduous or evergreen tree for every thirty (30) linear feet of planter, plus one (1) additional 24 inch box tree.

Tree spacing alternatives:

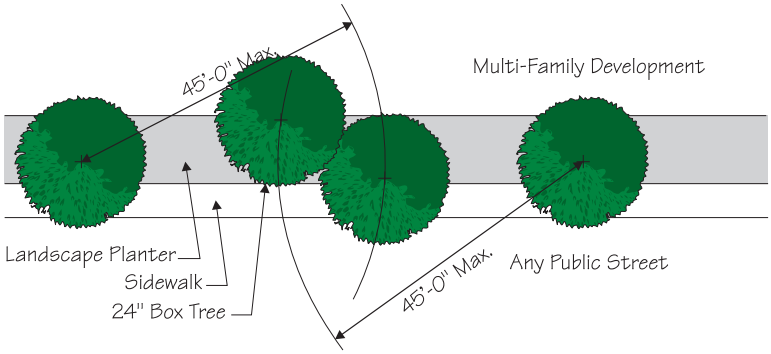
Alternative 1:

Spacing of trees shall not exceed thirty (30) feet on center.



Alternative 2:

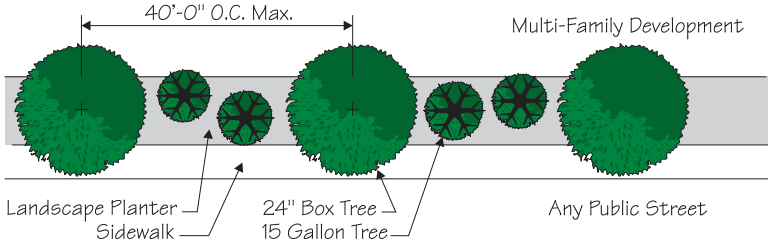
Clustering of trees is allowed if: the total number of trees exceeds the minimum requirements by at least one (1) tree; the spacing between any two (2) trees does not exceed forty-five (45) feet; and at least three (3) trees are located within a forty-five (45) feet radius.



Alternative 3:

The minimum number of trees required is one (1) 24 inch box deciduous or evergreen tree for every forty (40) linear feet of planter plus one (1) extra 24 inch box tree. In addition, two (2) 15 gallon deciduous or evergreen trees shall be required for every forty (40) linear feet of planter, and will be located between the 24 inch box trees.

The spacing of the 24 inch trees shall not exceed forty (40) feet on center. The 15 gallon trees can be either regularly spaced or grouped in between the 24 inch trees.

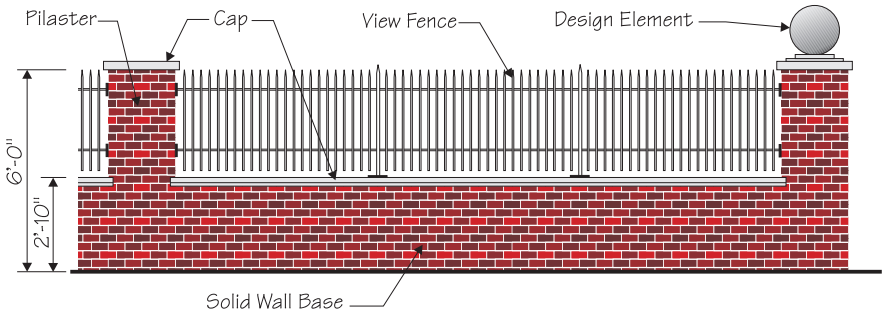


Ground cover:

Ground cover is required and shall include a minimum of four (4) shrubs of five (5) gallon minimum each per each 24 inch box and 15 gallon tree provided. Turf may be an option when the planter has a fourteen (14) feet minimum width, this option does not require any evergreen shrubs.

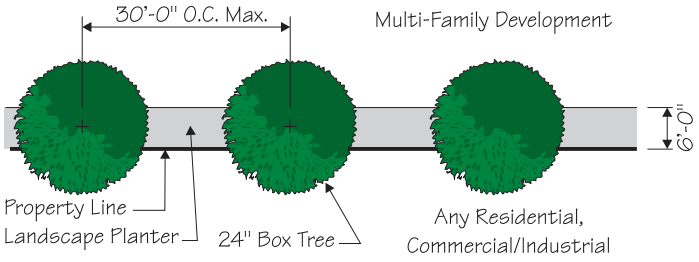
Wall and Fence:

Walls and fences at the back of the landscape planter shall be made of decorative blocks, split face, flute, brick, slump stone or wrought iron, and shall have a minimum of twenty (20) percent contrasting material. The use of stucco is discouraged. The use of cap is strongly encouraged with other design elements to modulate the top line of the wall. A combination of a two feet 10 inches (2'10") high solid wall base with a wrought iron fence in between solid pilasters with cap is the recommended alternative.



Rear and side yard landscape:

A minimum of a six (6) feet wide landscape planter, clear of any overhanging structure, shall be provided along all rear and side property line solid walls. Where abutting any residential, commercial/industrial use/zoning districts the planter shall contain a minimum of one (1) 24 inch box evergreen tree for every thirty (30) linear feet of planter, plus one (1) additional 24 inch box tree. The spacing of the trees shall not exceed thirty (30) feet on center.



All commercial/industrial development abutting any public right-of-way shall conform to the following guidelines in order to enhance the City aesthetics along both sides of the roadways.

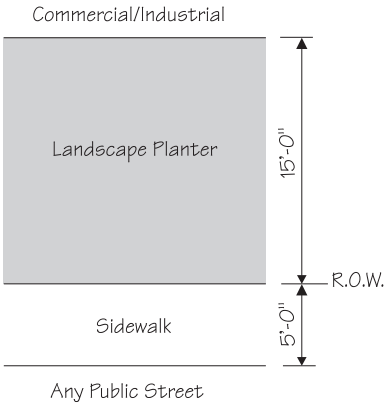
Planter characteristics:

Provide a minimum of a fifteen (15) feet wide landscape planter in addition to the width of any detached or attached sidewalk. This landscape planter may contain or allow the following uses:

1. Public utility easement (open surface drainage easement cannot occupy more than thirty (30) percent of the landscape planter).

2. Mechanical installations, provided that they do not encroach more than five (5) feet into the landscape planter. Such equipment shall be one hundred (100) percent screened with landscape material from any view angle from a public right-of-way.

3. Parking area, provided that they do not encroach more than five (5) feet into the landscape planter, and do not exceed fifteen (15) percent of the total landscape planter area. In all cases, the landscaping requirements for the parking area shall be in addition to the landscaping requirements of the planter.



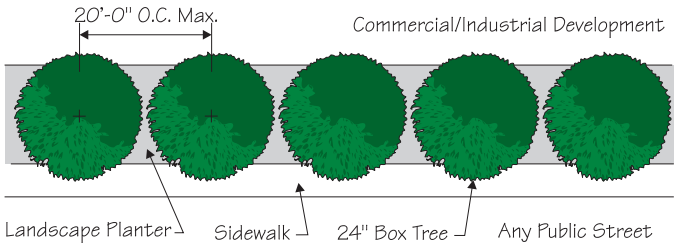
Minimum number of trees required:

The planter shall provide a minimum of one (1) 24 inch box deciduous or evergreen tree for every twenty (20) linear feet of planter, plus one (1) additional 24 inch box tree.

Tree spacing alternatives:

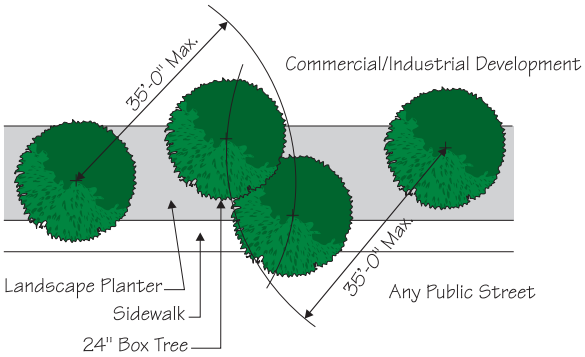
Alternative 1:

Spacing of trees shall not exceed twenty (20) feet on center.



Alternative 2:

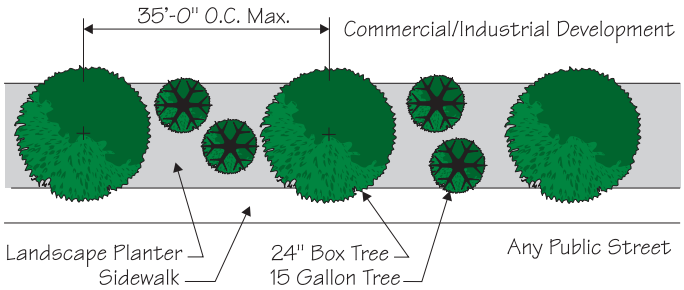
Clustering of trees is allowed if: the total number of trees exceeds the minimum requirements by at least one (1) tree; the spacing between any two (2) trees does not exceed thirty-five (35) feet; and at least three (3) trees are located within a thirty-five (35) foot radius.



Alternative 3:

The minimum number of trees required is one (1) 24 inch box deciduous or evergreen tree for every forty (40) linear feet of planter plus one (1) extra 24 inch box tree. In addition, two (2) 15 gallon deciduous or evergreen trees shall be required for every forty (40) linear feet of planter, and will be located between every 24 inch tree.

The spacing of the 24 inch trees shall not exceed thirty-five (35) feet on center. The 15 gallon trees can be either regularly spaced or grouped in between the 24 inch trees.

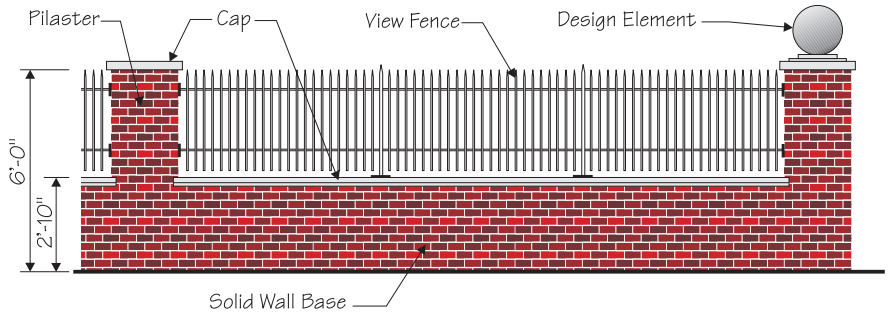


Ground cover:

Ground cover is required and shall include a minimum of four (4) shrubs of five (5) gallon minimum each per each 24 inch box and 15 gallon tree provided. Turf may be an option when the planter has a fourteen (14) feet minimum width, this option does not require any evergreen shrubs.

Wall and Fence:

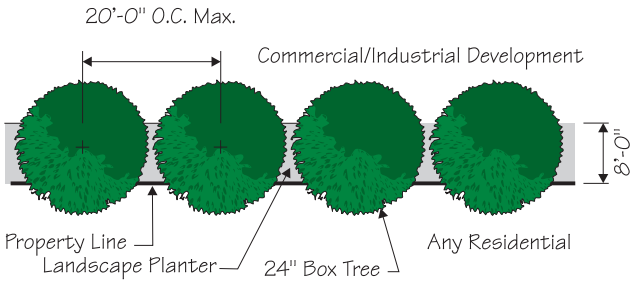
Walls and fences at the back of the landscape planter shall be made of decorative blocks, split face, flute, brick, slump stone or wrought iron, and shall have a minimum of twenty (20) percent contrasting material. The use of stucco is discouraged. The use of cap is strongly encouraged with other design elements to modulate the top line of the wall. A combination of a two feet 10 inches (2'10") high solid wall base with a wrought iron fence in between solid pilasters with cap is the recommended alternative.



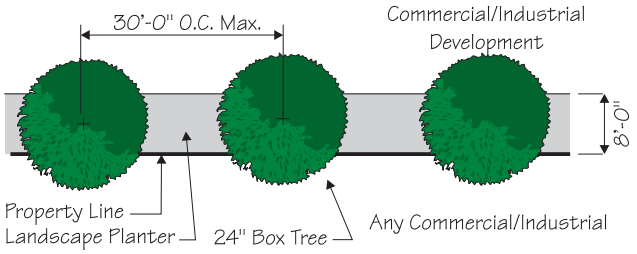
Rear and side yard landscape:

A minimum of an eight (8) feet wide landscape planter, clear of any overhanging structure, shall be provided along all rear and side property line solid walls. The planter shall be landscaped as follows:

1. Where abutting any residential use/zoning districts the planter shall provide a minimum of one (1) 24 inch box evergreen tree for every twenty (20) linear feet of planter, plus one (1) additional 24 inch box tree. The spacing of the trees shall not exceed twenty (20) feet on center.



2. Where abutting any commercial/industrial use/zoning districts the planter shall provide a minimum of one (1) 24 inch box evergreen tree for every thirty (30) linear feet of planter, plus one (1) additional 24 inch box tree. The spacing of the trees shall not exceed thirty (30) feet on center.



Modification Procedure

If the applicant believes that the strict conformance of the "Landscape, Wall & Buffer Standards" cannot be met due to some unique or unusual hardship or circumstance, the applicant can apply for a waiver or submit an alternative design to the Director of the Planning and Development Department or an authorized designee. The applicant must demonstrate why compliance cannot be met and how the proposed alternative meets the intent of the regulations. Financial hardship may not be considered as a reason to waive the requirements of these standards. The Director-authorized designee may deny, approve, or, approve with conditions, a modification which shall be in writing within a reasonnable period of time of the appeal.

Appeal Procedure

The applicant or an aggrieved party may appeal the decision of the Director or authorized designee to the Planning Commission within ten (10) days of the date of the decision. The appeal must be in writing and accompanied by the appropriate filing fee. The applicant or an aggrieved party may also file a written appeal of the decision of the Planning Commission to the City Council. The City Council or Planning Commission may call any application forward for review.

Enforcement And Penalties

The Director of the Planning and Development Department or a duly authorized representative, may take any appropriate action to withhold or revoke a business license or a certificate of occupancy for failure to comply or maintain compliance with the "Landscape, Wall & Buffer Standards" of the City of Las Vegas.

The following definitions are intended to provide a common interpretation of terms in order to avoid confusion and insure that the Standards are utilized in a uniform manner.

Automatic Irrigation System. A complete set of system components which includes the water source, the water distribution network, and the general irrigation equipment. The system operates in accordance to a preset program within a controller.

Backfill. Soil that is returned to a planting hole after a plant's roots have been positioned.

Berms. Graded mounds of earth used to create a screen, buffer or a landscape design element.

Bubbler heads. An irrigation head that delivers water to the root zone by "flooding" the planted area. Bubblers emit a trickle, umbrella, or short stream pattern.

Deciduous Shade Tree. A tree that sheds all its leaves every year at a certain season.

Decorative Block. Generally refers to non-standard, masonry, building block. The face of the block is typically textured and contains a non-standard finish or shape.

Drip Emitter. A low volume emission device that delivers water at low rates. Drip emitters are used to apply water directly to an individual plant root zone.

Drought-tolerant Plant. A plant that can survive with minimum supplemental water.

Evergreen Tree. A tree, either broad leaf or conifer, which maintains at least a portion of its leaves or needles throughout the year.

Fifteen (15) gallon tree. Tree measuring a minimum of six (6) feet in height, four (4) feet in spread and one and one-quarter (1 1/4) inch trunk caliper measured at six (6) inches above the soil line.

Finished Elevation. The elevation/grade which re-establishes the finished grade after all site improvements are completed.

Ground Cover. Plants grown for their low spreading capabilities for the protection of soils, to prevent growth of weeds and for aesthetic purposes.

Hardscape. Elements of the landscape constructed from non-living materials such as concrete, boulders, brick, blacktop and lumber.

Irrigation System. The combination of elements such as automatic controllers, meter, pressure vacuum breakers, pipes, valves, emitters, bubblers, spray heads, tubing and other materials designed for the purpose of transporting water to landscaping.

Landscaping. The combination of elements such as trees, shrubs, ground covers, vines, and other organic material for the express purpose of creating an attractive and pleasing environment. Plazas, patios, art, and decorative courtyards may also be considered landscape elements.

Meandering Sidewalk. A sidewalk with a circuitous pattern of windings or turns.

Non-Porous Materials. A material that does not allow the movement of water and air to pass through it.

Overhead Spray Heads. An irrigation method that delivers water to the landscape in a spray or stream-like manner from above-ground spray heads (including pop-ups, impulse sprinklers, rotors, micromisters, etc., but does not include bubblers).

Rip-Rap. Hardscape materials that provide erosion protection along a drainage way (i.e. large boulders).

Rock Mulch. A non-soluble protective covering which includes rock, gravel, decomposed granite, or crushed rock applied to the soil surface to reduce weed growth, reduce evaporation of moisture from the soil surface, maintain even temperature around plant roots, and slow erosion.

Runoff. Irrigation water that is not absorbed by the soil to which it is applied and which flows onto other areas. Runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or where a severe slope exists.

Soil. All unconsolidated mineral and organic material of whatever origin that overlies bedrock and can be readily excavated.

Soil Amendments. Organic and inorganic material added to soils to improve texture, nutrients, moisture holding capacity, and infiltration rates.

Stem Wall. A wall usually less than two (2) feet in height, used to divert or direct stormwater flows within an area specified by the Department of Public Works.

Subsurface Irrigation System. The application of water via buried pipe and emitters.

Swales. A depression in grade to control and direct the flow of surface water.

Topsoil. The top layer of native soil that is usually better for plant growth than what is beneath it. The term is also used to describe good soil imported for landscaping.

Turf. Any grassy area maintained by frequent mowing, fertilization and watering used for lawn and playing fields.

Twenty-Four (24) Inch Box Trees. Trees measuring a minimum of eight (8) feet in height, and six (6) feet in spread with a two (2) inch trunk caliper measured at six (6) inches above the soil line.

Xeriscape. Xeriscape is a creative method of landscaping that emphasizes water conservation. This is accomplished by following sound horticultural and landscaping practices, such as planning and design, soil improvements, limited turf areas, use of mulches, use of low water demand plants, efficient irrigation, and appropriate maintenance. When combined, these practices will produce an attractive, efficient, sustainable landscaping arrangement for residential, commercial and industrial situations.